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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Toshikazu OHSHIMA, ET AL.

Application No.: 09/506,084

Filed: February 17, 2000

For: GAME APPARATUS FOR
MIXED REALITY SPACE,
IMAGE PROCESSING
METHOD THEREOF, AND
PROGRAM STORAGE
MEDIUM

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Commissioner for Patents
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RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 3714

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REQUEST FOR RECONSIDERATION

Sir:

In response to the final Office Action dated May 29, 2003, Applicants respectfully request reconsideration and allowance of this application for the reasons discussed below.

Claims 1-4, 8-10, 18-23, 27-29, and 37-39 are pending in this application, with Claims 1, 20, and 39 being independent.

Claims 1-4, 8-10, 18-23, 27-29, and 37-39 remain rejected under 35.U.S.C. §102(b) as being clearly anticipated by U.S. Patent No. 5,577,981 (Jarvik). Applicants respectfully traverse this rejection for the reasons discussed below.

As recited in Claim 1, the present invention includes, *inter alia*, a computation unit adapted to determine the next action of a virtual object(s) by referring to a rule memory based on a relation among the location/posture of a viewpoint of the operator, location(s) of the virtual object(s) and geometric information of real object(s). Claims 20 and 39 respectively recite a corresponding method step and program step.

According the above-mentioned feature, the present invention of Claims 1, 20, and 39 is characterized by determining the next action of a virtual object (or objects) based on the relationship among three factors:

- 1) location/posture of the viewpoint of the operator;
- 2) location(s) of the virtual object(s); and
- 3) geometric information of the real object(s).

As shown, for example, at least in Fig. 1 of the drawings, the virtual objects are controlled as if they are alive and act by themselves. To achieve this control, the claimed invention determines the next action of a virtual object based on the aforementioned factors. *See, e.g.*, Fig. 11 and the corresponding description.

Claims 1, 20, and 39 further recite the feature of generating images of the virtual object(s) based on the determined action, as well as other conditions (e.g., the location/posture of an operator's viewpoint).

Applicants respectfully submit that Jarvik fails to disclose or suggest at least the above-mentioned features of determining the next action of a virtual object(s)

based on the recited factors and then generating images of the virtual object(s) based on the determined action.

As the Examiner notes, Jarvik discloses what he calls a hybrid mode that includes superimposing a virtual object over a real object. Col. 6, lines 23-32; Fig. 10. However, that patent only computes the perspective view of the virtual object to maintain superposition of the computer image and the handle (i.e., the real object). *See, e.g.*, Col. 10, lines 15-19. Virtual objects in Jarvik are not controlled and do not act like those of the presently claimed invention, and Jarvik does not disclose or suggest determining a next action for a virtual object based on various factors as recited in Claims 1, 20, and 39.

For the foregoing reasons, Applicants submit that the present invention recited in Claims 1, 20, and 39 is patentable over the cited art.

The dependent claims are patentable at least for the same reasons as the claims they depend from, as well as for the additional features they recite.

For the foregoing reasons, Applicants submit that this application is in condition for allowance. Favorable reconsideration, withdrawal of the rejection set forth in the above-mentioned Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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